

Beamline 31-ID / SGX-CAT

Scientific focus: Macromolecular crystallography

Scientific programs: Under development

Optics & Optical Performance

- 4.5–25 keV energy range
- focused beam size 100 μm hor. x 100 μm vert.
(calculated)
- Kohzu diamond(111) monochromator
- horizontal and vertical focusing mirrors
800 mm long ULE
Pt, Rh coatings
- KB geometry

Experiment Stations

31-ID-A

- white beam first optics enclosure

31-ID-C

- white beam first optics enclosure
- monochromatic experiments

31-ID-D

- monochromatic
- crystallography

Detectors

- Mar CCD

Beamline Controls and Data Acquisition

- SPEC / PC / Linux

Beamline Support Equipment/Facilities

- standard protein crystallography

Insertion Device Source Characteristics (nominal)

source	Undulator A
period	3.30 cm
length	2.47 m
effective K_{\max} (at minimum gap = 10.5 mm)	2.78
energy range 1st harmonic	2.9 - 13.0 keV
energy range 1st - 5th harmonics	2.9 - 45.0 keV
on-axis peak brilliance at 6.5 keV	9.6×10^{18} ph/sec/mrad ² /mm ² /0.1% bw
source size at 8.0 keV \sum_x \sum_y	359 μm 21 μm
source divergence at 8.0 keV $\sum_{x'}$ $\sum_{y'}$	24 μrad 6.9 μrad